WE CLAIM:

1. A bearing comprising:

an outer shell;

a bearing pad concentrically disposed within said outer shell; and

a spring between said outer shell and said bearing pad, said spring providing a resilient force through said bearing pad onto a shaft when said shaft is installed in said bearing.

2. The bearing according to claim 1, further comprising an elastomeric base material interposed between said outer shell and said bearing pad.

3. The bearing according to claim 1, wherein said spring is a helically wound wave spring.

4. The bearing according to claim 1, wherein said bearing pad includes from about 6 to about 20 individual pads.

5. The bearing according to claim 4, wherein said bearing pad includes about 12 individual interlinked pads.

6. The bearing according to claim 5, further comprising a plurality of gaps interposed between each of said individual pads, said gaps allowing for size and shape variations of said shaft.

7. The bearing according to claim 2, wherein said elastomeric base material and said spring provide about 4,000 to about 5,000 pounds/inch radial

spring rate as measured by the resiliency of said spring and said elastomeric base material to movement by said shaft.

8. The bearing according to claim 2, wherein said bearing provides a maximum linear resistance to axial motion of about 1 pound with a 20 pound radial load on said bearing.

9. The bearing according to claim 8, wherein said maximum linear resistance to axial motion is about 5 pounds throughout a temperature range from about –65 to about 160 degrees F.

10. The bearing according to claim 1, wherein said bearing pad comprises a self-lubricating polymer.

11. The bearing according to claim 1, further comprising a lip molded onto said outer shell, said lip providing a wiping action on said shaft during movement of said bearing along said shaft, thereby providing a cleaning mechanism.

12. A linear bearing comprising:

an outer shell;

a bearing pad concentrically disposed within said outer shell; and

an elastomeric base material interposed between said outer shell and said bearing pad.

13. The linear bearing according to claim 12, further comprising a spring between said outer shell and said bearing pad, said spring providing a

resilient force through said bearing pad onto a shaft when said shaft is installed in said bearing.

14. The bearing according to claim 13, wherein said spring is a helically wound wave spring.

15. The bearing according to claim 12, wherein said bearing pad includes from about 6 to about 20 individual pads.

16. The bearing according to claim 15, wherein said bearing pad includes about 12 individual pads.

17. The bearing according to claim 15, further comprising a plurality of gaps interposed between each of said individual pads, said gaps allowing for size and shape variations of said shaft.

18. The bearing according to claim 12, wherein said bearing pad comprises a self-lubricating polymer.

19. The bearing according to claim 12, further comprising a lip molded onto said outer shell, said lip providing a wiping action on said shaft during movement of said bearing along said shaft, thereby providing a cleaning mechanism.

20. A linear bearing comprising:

an outer shell;

an elastomeric base material concentrically disposed within said outer shell;

a self-lubricating bearing pad including from about 6 to about 20 individual pads;

a helical spring molded integrally within said elastomeric base material, said helical spring providing a resilient force through said bearing pad onto a shaft when said shaft is installed in said bearing; and

a plurality of gaps interposed between each of said individual pads, said gaps allowing for size and shape variations of said shaft.

21. A linear bearing according to claim 20, wherein said bearing pad includes about 12 individual pads.

22. A linear bearing according to claim 21, wherein:

said elastomeric base material and said spring provide about 4,000 to about 5,000 pounds/inch radial spring rate as measured by the resiliency of said spring and said elastomeric base material to movement by said shaft;

said bearing provides a maximum linear resistance to axial motion of about 1 pound with a 20 pound radial load on said bearing; and

said maximum linear resistance to axial motion is about 5 pounds throughout a temperature range from about –65 to about 160 degrees F.

23. A linear bearing for supporting a load along a shaft, said linear bearing comprising:

an outer shell;

a bearing pad concentrically disposed within said outer shell, said bearing pad including from about 6 to about 20 individual pads, each of said individual pads comprising a self-lubricating polymer;

a helical spring between said outer shell and said bearing pad, said helical spring providing a resilient force through said bearing pad onto a shaft when said shaft is installed in said bearing;

an elastomeric base material interposed between said outer shell and said bearing pad; and

a plurality of gaps interposed between each of said individual pads, said gaps allowing for size and shape variations of said; wherein

said elastomeric base material and said spring provide about 4,000 to about 5,000 pounds/inch radial spring rate as measured by the resiliency of said spring and said elastomeric base material to movement by said shaft;

said bearing provides a maximum linear resistance to axial motion of about 1 pound with a 20 pound radial load on said bearing; and

said maximum linear resistance to axial motion is about 5 pounds throughout a temperature range from about –65 to about 160 degrees F.

24. The linear bearing according to claim 23, wherein said bearing pad comprises about 12 individual pads.

25. A method for moving a load on a shaft through a bearing, comprising:

forming a tubular-shaped outer shell of a linear bearing;

concentrically disposing a self-lubricating bearing pad within said outer shell;

installing said linear bearing on said shaft;

providing a resilient force through said bearing pad onto said shaft;

attaching a load to said shaft; and

moving said linear bearing relative to said shaft, thereby moving said load with said shaft within said linear bearing.

26. The method according to claim 25, wherein said resilient force is provided with at least one of a spring and an elastomeric base material.

27. The method according to claim 26, wherein said resilient force is provided with both said spring and said elastomeric base material.

28. The method of claim 27, further comprising:

providing about 4,000 to about 5,000 pounds/inch radial spring rate as measured by the resiliency of said spring and said elastomeric base material to movement by said shaft.

29. The method according to claim 27, further comprising:

providing a maximum linear resistance to axial motion of about 1 pound when said load is about 20 pounds.

30. The method according to claim 27, further comprising cleaning said shaft with a lip molded onto said outer shell, said lip providing a wiping action on said shaft during movement of said bearing along said shaft.

31. A method for moving a ram air door with a ram door actuator having a nut tube mounted on a linear bearing, comprising:

forming a tubular-shaped outer shell of said linear bearing;

concentrically disposing a self-lubricating bearing pad within said outer shell;

installing said linear bearing in a rigid housing;

providing a resilient force through said bearing pad onto said shaft, said resilient force provided by at least one of a spring and an elastomeric base material;

providing about 4,000 to about 5,000 pounds/inch radial spring rate as measured by the resiliency of said spring and said elastomeric base material to movement by said shaft;

providing a maximum linear resistance to axial motion of about 1 pound when said load is about 20 pounds;

installing said nut tube in said linear bearing; and

moving said nut tube relative to said linear bearing with said ram door actuator, thereby moving said ram air door; and

cleaning said nut tube with a lip molded onto said outer shell, said lip providing a wiping action on said nut tube during movement of said nut tube within said bearing.

32. The method according to claim 31, wherein said resilient force is provided with both said spring and said elastomeric base material.